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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/024,797	12/19/2001	Lamonte H.P. Yarroll	CE08510R	6087

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MOTOROLA, INC.
1303 EAST ALGONQUIN ROAD
IL01/3RD
SCHAUMBURG, IL 60196

EXAMINER	
MARTIN, NICHOLAS A	

ART UNIT	PAPER NUMBER
2154	

DATE MAILED: 07/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/024,797	YARROLL ET AL.	
	Examiner	Art Unit	
	Nicholas Martin	2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *19 December 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☒ Claim(s) *3-11* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 December 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *12/19/01, 6/2/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. Claims 1-13 are presented for examination.

Claim Objections

2. Claims 3-11 are objected to because of the following informalities:

3. Claims 3-11 are objected to because they are drawn upon a reference mentioned in the specification on page 4, lines 7-9. It is requested by the examiner that all references stated in the specification be supplied in order to further understand the scope of the invention.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-13 are rejected under U.S.C. 103(a) as being anticipated by Sorqvist, Patrik (hereinafter Sorqvist), WO 01/48736, in view of "Voice Over IP Performance Monitoring", Cole, R.G. and Rosenbluth, J.H. (hereinafter Cole).

6. As per claim 1, Sorqvist teaches a method for optimizing customer experience of a real-time system comprising:

collecting statistics from a network (Page 3, lines 8-12);

using the statistics to choose a plurality of parameters (Page 9, line 32 – Page 10, line 18);

using the plurality of parameters to manipulate playback properties of the real-time system to optimize the customer experience (Page 10, line 28 – Page 11, line 16; Page 32, lines 1-14).

7. Sorqvist does not teach a method for optimizing customer experience as measured on a physiological scale.

8. Cole teaches a method for optimizing customer experience as measured on a physiological scale (Page 11, column 2, paragraph 2; equation 1; figure 2; table 1).

9. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Cole and Sorqvist because both deal with voice playback to optimize call quality over a network (IP). Furthermore, the teachings of Cole to allow method for optimizing customer experience as measured on a physiological scale would improve the functionality of Sorqvist's system by assessing a transmission plan by incorporating a rating through an arithmetic average of quality to determine a quality factor through several factors for a voice channel over a network to optimize call quality.

10. As per claim 2, Sorqvist teaches the method of claim 1 wherein the step of collecting statistics from a network comprises measuring network conditions delay, jitter and loss (Page 33, lines 1-9).

11. As per claim 3, Sorqvist teaches the method of claim 2 wherein the step of using the statistics to choose a plurality of parameters comprises for the measured delay, jitter and loss (Page 33, lines 1-9).

12. Sorqvist does not teach the method of claim 2 of determining the best R-factor.

13. Cole teaches a method for determining the best R-factor (Page 11, equation (1); - Page 12, equations 2 & 3).

14. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Cole and Sorqvist because both deal with voice playback to optimize call quality over a network (IP). Furthermore, the teachings of Cole to allow method for determining the best R-factor would improve the functionality of Sorqvist's system by assessing a transmission plan by incorporating a rating to determine a quality factor through several factors for a voice channel over a network to optimize call quality.

15. As per claim 4, Sorqvist teaches a method of optimizing jitter buffer length and playback ratio to improve call quality comprising the steps of:

measuring network conditions delay, jitter and loss (Page 33, lines 1-9).

16. Sorqvist does not teach a method to improve call quality comprising:

determining a jitter buffer length and a playback ratio that yield a best R-factor.

17. Cole teaches a method to improve call quality comprising:

determining a jitter buffer length and a playback ratio that yield a best R-factor (Page 11, equation (1) - Page 13, equation 7).

18. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Cole and Sorqvist because both deal with voice playback to optimize call quality over a network (IP). Furthermore, the teachings of Cole to allow improve call quality comprising determining a jitter buffer length and a playback ratio that yield a best R-factor would improve the functionality of Sorqvist's system by assessing a transmission plan by incorporating a rating to determine a quality factor through several factors for a voice channel over a network to optimize call quality.

19. As per claim 5, Sorqvist does not explicitly teach the method of claim 4 wherein the step of determining a jitter buffer length and a playback ratio that yield the best R-factor, comprising the steps of:

a) setting the jitter buffer length and the playback ratio to an initial value

b) determining Ro;

c) determining Ie(c);

d) determining Ie(loss);

e) determining Ie(pbr);

f) determining Ie(DD);

g) determining R;

h) determining whether an optimum rate of R has been; and

i) when the optimum value of R has not been achieved, changing the value of jitter buffer length and/or playback ratio and repeating steps b through h

20. Cole teaches a method to yield the best R-factor comprising the steps of:

a) setting the jitter buffer length and the playback ratio to an initial value (Abstract; Figure 1);

b) determining Ro (Page 11, equation (1) - Page 13, equation 7; Table 1);

c) determining Ie(c) (Page 12, column 1, paragraph 2);

d) determining Ie(loss) (Page 12, column 1, paragraph 2);

e) determining Ie(pbr) (Page 12, column 1, paragraph 2);

f) determining Ie(DD) (Page 12, column 1, paragraph 2);

g) determining R (Page 11, equation (1) - Page 13, equation 7; Table 1; Page 12, column 1, paragraph 2);

h) determining whether an optimum rate of R has been achieved (Pages 15-16, section 4.1); and

i) when the optimum value of R has not been achieved, changing the value of jitter buffer length and/or playback ratio and repeating steps b through h (Abstract; Page 1, column 2, paragraphs 2-3; Page 11, equation (1) - Page 13, equation 7; Table 1; Page 12, column 1, paragraph 2).

21. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Cole and Sorqvist because both deal with voice playback to optimize call quality over a network (IP). Furthermore, the teachings of Cole to allow wherein the step of determining a jitter buffer length and a playback ratio that yield the best R-factor would improve the functionality of Sorqvist's system by

assessing a transmission plan by incorporating a rating to determine a quality factor through several factors for a voice channel over a network to optimize call quality.

22. As per claim 6, Sorqvist teaches the method of claim 5 wherein the step of determining Ie(loss) comprises:

determining an initial playback time (Page 32, lines 1-14);

determining an initial jitter buffer overflow (Page 33, lines 1-9);

using the initial jitter buffer overflow to determine an initial jitter buffer loss (Page 33, lines 1-30);

determining a gain in jitter buffer length (Page 34, lines 10-16);

using the gain in jitter buffer length to determine a final playback time (Page 35, lines 1-7);

determining a final jitter buffer overflow (Page 33, lines 1-9); and

using the final jitter buffer overflow to determine a final jitter buffer loss (Page 33, lines 1-30).

23. Sorqvist does not teach determining Ie(loss) comprising:

determining an average jitter buffer loss from the initial jitter buffer loss and the final jitter buffer loss; and

using the average jitter buffer loss to determine Ie(loss).

24. Cole teaches a method for determining Ie(loss) comprising:

determining an average jitter buffer loss from the initial jitter buffer loss and the final jitter buffer loss (Pages 14-15, section 4); and

using the average jitter buffer loss to determine Ie(loss) (Pages 14-15, section 4).

25. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Cole and Sorqvist because both deal with voice playback to optimize call quality over a network (IP). Furthermore, the teachings of Cole to allow determining an average jitter buffer loss from the initial jitter buffer loss and the final jitter buffer loss; and using the average jitter buffer loss to determine Ie(loss) would improve the functionality of Sorqvist's system by assessing a transmission plan by incorporating a rating to determine a quality for factors for a voice channel over a network to optimize call quality.

26. Claims 7-11 do not teach or define any new limitations above claims 4-6 and therefore are rejected for similar reasons.

27. As per claim 12, Sorqvist teaches an apparatus for optimizing customer experience of a real-time system comprising:

a device for collecting statistics from the network (Page 3, lines 8-10);

a control apparatus operatively coupled to the device for manipulating playback properties of the real-time system (Page 9, line 32 – Page 10, line 18; Page 10, line 28 – Page 11, line 16; Page 32, lines 1-14); and

an optimizer operatively coupled to the device for using the statistics to choose a plurality of parameters for the control apparatus, wherein the plurality of parameters are chosen to optimize the customer experience (Page 9, line 32 – Page 10, line 18; Page 10, line 28 – Page 11, line 16; Page 32, lines 1-14; Page 33, lines 1 – Page 34, line 2).

28. Sorqvist does not teach an apparatus for optimizing customer experience as measured on a physiological scale.

29. Cole teaches an apparatus for optimizing customer experience as measured on a physiological scale (Page 11, column 2, paragraph 2; equation 1; figure 2; table 1).

30. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Cole and Sorqvist because both deal with voice playback to optimize call quality over a network (IP). Furthermore, the teachings of Cole to allow optimizing customer experience as measured on a physiological scale would improve the functionality of Sorqvist's system by assessing a transmission plan by incorporating a rating through an arithmetic average of quality to determine a quality factor through several factors for a voice channel over a network to optimize call quality.

31. As per claim 13, Sorqvist teaches an apparatus for optimizing jitter buffer length to improve call quality comprising:

a jitter buffer (Page 32, lines 30-32);

a voice decoder operatively coupled to the jitter buffer for controlling a rate at which voice data is removed from the jitter buffer (Page 32, lines 1-14, lines 30-35);

a voice resampler operatively coupled to the voice decoder for controlling a number of bits removed from the voice decoder (Fig. 2; Page 9, lines 19-31; Page 32, lines 1-14, lines 30-35; Page 33, lines 1-23); and

a playback optimizer operatively coupled to the jitter buffer and the voice resampler for receiving statistics on a communication link from the jitter buffer Fig. 2-3;

Page 9, lines 19 – Page 10, line 18; Page 32, lines 1-14, lines 30-35; Page 33, lines 1-23), for using the statistics to determine a jitter buffer length and playback ratio that yield and optimum score and for sending the jitter buffer length and playback ratio to the voice resampler to improve call quality (Page 9, line 32 – Page 10, line 18; Page 10, line 28 – Page 11, line 16; Page 32, lines 1-14; Page 33, lines 1 – Page 34, line 2).

32. Sorqvist does not teach an apparatus for optimizing call quality as measured on a physiological scale.

33. Cole teaches an apparatus for optimizing call quality as measured on a physiological scale (Page 11, column 2, paragraph 2; equation 1; figure 2; table 1).

34. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Cole and Sorqvist because both deal with voice playback to optimize call quality over a network (IP). Furthermore, the teachings of Cole to allow optimizing call quality as measured on a physiological scale would improve the functionality of Sorqvist's system by assessing a transmission plan by incorporating a rating through an arithmetic average of quality to determine a quality factor through several factors for a voice channel over a network to optimize call quality.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents and publications are cited to further show the state of the art with respect to "Method For Tuning Voice Playback Ratio To Optimize Call Quality".

i.	US 6,452,950	Ohlsson et al.
ii.	US 5,127,001	Steagall et al.

A shortened statutory period for reply to this Office action is set to expire in THREE MONTHS from the mailing date of this action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicholas Martin whose telephone number is (571) 272-3970. The examiner can normally be reached on Monday - Friday 8:30 a.m. - 5:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John A. Follansbee can be reached on (571) 272-3964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-3970.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nicholas Martin
June 20, 2005

JOHN FOLLANSBEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100